

UNCLASSIFIED

AD 295 783

*Reproduced
by the*

**ARMED SERVICES TECHNICAL INFORMATION AGENCY
ARLINGTON HALL STATION
ARLINGTON 12, VIRGINIA**



UNCLASSIFIED

NOTICE: When government or other drawings, specifications or other data are used for any purpose other than in connection with a definitely related government procurement operation, the U. S. Government thereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use or sell any patented invention that may in any way be related thereto.

62-1505

295 783

MAN AND THE COSMOS

By

V. V. Parin



295783

UNEDITED ROUGH DRAFT TRANSLATION

MAN AND THE COSMOS

BY: V. V. Parin

English Pages: 4

SOURCE: Russian Newspaper, Sovetskaja
Litva, March 31, 1961, p. 4

THIS TRANSLATION IS A RENDITION OF THE ORIGINAL FOREIGN TEXT WITHOUT ANY ANALYTICAL OR EDITORIAL COMMENT. STATEMENTS OR THEORIES ADVOCATED OR IMPLIED ARE THOSE OF THE SOURCE AND DO NOT NECESSARILY REFLECT THE POSITION OR OPINION OF THE FOREIGN TECHNOLOGY DIVISION.

PREPARED BY:

TRANSLATION SERVICES BRANCH
FOREIGN TECHNOLOGY DIVISION
WP-AFB, OHIO.

Man and the Cosmos

by

Prof.V.V.Parin

Flights of Soviet satellites and rockets have demonstrated before the entire world that soviet scientists and engineers have lustrously solved a number of difficult problems connected with the mastering of cosmic space. Safe descent of a number of soviet cosmic ships exactly at the predesignated region strenghtens the belief that the time is not too far away when man's first flight into the cosmos will be executed.

The extensive program of biological investigations ,carried out by soviet scientists on cosmic ships , yielded enormous scientific material , the analysis of which has not been fully completed.


Biological investigations are extremely necessary to assure safety and workability of the cosmonaut in future cosmic flights. At present time are sufficiently well known the conditions, which will be encountered by the first man-passenger of cosmic ship. These are - greater accelerations and vibrations along the active section of the flight. It is, weightlessness, cosmic radiation, uncommon form of the surrounding space and other factors, sharply differentiating cosmic flight conditions from customary terrestrial conditions.

It can be assumed, that even if preliminary thorough training and readying of cosmonauts to the effects of individual factors will help in better enduring the

flight conditions, nevertheless the combined effect of all the factors simultaneously may cause new unexpected sensations. That is why for man's future flight it is necessary to develop a system of continuous medicinal control over the state of his basic vital functions and higher nervous activity and hygienic conditions in the cabin of the cosmic ship.

Flights of soviet cosmic ships enabled to accumulate experience concerning "medicinal control" over distances, and "biotelemetry" has already established itself firmly in the arsenal of means of cosmic medicine and biology. And so, for example, on the second soviet cosmic ship ten different physiological methods were employed and the scientific information was transmitted over many radiotelemetering channels. In essence this is an entire flying physiological laboratory with numerous variegated tasks.

There is continuous further improvement of radiotelemetering systems, change over from "investigation" systems to "control" systems, offering the possibility of operational medicinal observation during the entire flying process.

Already now with the aid of TV and radiotelemetry was studied the behavior of animals and their physiological reactions along various sections of the flight. We know, that along the active section of the flight, when the rocket-carrier engines are in operation, there is  a sharp increase in pulse frequency and in the breathing functions of the experimental animals. The motorial activity of the animals registered with the aid of radiotelemetering and TV systems, in the first period of weightlessness was somewhat higher, but after the animals got accustomed to it they began behaving calmly. Radiotelemetric registration of electrocardiograms, tones of the heart, arterial oscillograms produced rich material on the effect of cosmic flight on the blood circulation system. With the aid of biotelemetering systems soviet physiologists succeeded in registering a ballistocardiogram - a curve, reflecting the mechanical effect of heart systoles.

A serious load for the  living organism is the transition from

the state of weightlessness to the action of overloads along the section of descent of the cosmic ship. And so ,Chernushka - passenger on the fourth soviet cosmic ship showed, toward the end of flight, a pulse frequency of 70-90 beats per min. At the first minutes of descent the pulse frequency went up to 240 beats per min, after which it decreased gradually to 120-140 beats. The given examples show how high the sensitivity of the blood circulation system is to changes in flight conditions. It is understood, that during man's flight the change in weightlessness and overloads may produce an effect not only on the vegetative functions of his organism, but also on the functions of higher branches of the central nervous system.

We have all bases to assume that the realization of the age-old dream of man's flight into cosmos, about flights to other planets (worlds), is drawing closer with each new successful flight of our rocket ships.

DISTRIBUTION LIST

DEPARTMENT OF DEFENSE	Nr. Copies	MAJOR AIR COMMANDS	Nr. Copies
		AFSC	
		SCFTR	1
		ASTIA	25
HEADQUARTERS USAF		TD-B1a	5
		TD-B1b	3
AFCIN-3D2	1	AEDC (AEY)	1
ARL (ARB)	1	SSD (SSF)	2
AFCIN-M	1	APGC (PGF)	1
		ESD (ESY)	1
		RADC (RAY)	1
OTHER AGENCIES		AFMDC (ADF)	1
		AFMTC (MTW)	1
		AFSWC (SWF)	1
		AMD (AMRF)	
CIA	1		
NSA	6		
AID	2		
OPS	2		
AEC	2		
PWS	1		
NASA	1		
RAND	1		